In The Matter Of	)	
	)	
Connect America Fund	)	WC Docket No. 10-90
	)	
A National Broadband Plan	)	GN Docket No. 09-51
For Our Future	)	
	)	
High-Cost Universal Service Support	)	WC Docket No. 05-337

COMMENTS OF THE
SCHOOLS, HEALTH AND LIBRARIES BROADBAND (SHLB) COALITION

The Schools, Health and Libraries Broadband (SHLB) Coalition ("SHLB Coalition")[1] respectfully submits these comments in response to the Commission's recent Notice of Inquiry and Notice of Proposed Rulemaking regarding the best way to target Universal Service funding toward broadband networks in unserved areas and the creation of a Connect America Fund (CAF).

I.   Summary

The SHLB Coalition proposes one simple but fundamentally important idea: recipients of High-Cost /Connect America Fund support (whomever they may be and however the amount of funding is determined) should be required to ensure that community anchor institutions in the region have sufficient and affordable high-capacity broadband capabilities available to them as a condition of receiving that support. High-capacity broadband is vitally important for anchor institutions to serve the needs of their communities. Anchor institutions – the schools, health care providers, libraries and others – have unique broadband needs that are very different from the needs of residential consumers, yet equally important. If these institutions do not have sufficient affordable broadband capacity, then broadband providers who receive High-Cost /Connect America Fund support (which is funded by the general public) should be obligated for the public good to use a portion of their funding to deploy affordable high-capacity broadband facilities to meet the needs of these anchor institutions. Furthermore, these institutions should have the option of connecting to non-profit or for-profit research and education networks,

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[1] "SHLB Coalition" is pronounced "Shell-Bee Coalition."

municipalities and other broadband providers in addition to the traditional commercial providers.

II. Introduction

The SHLB Coalition consists of 57 members, including representatives of schools, health care providers, libraries, private sector companies, state and national research and education networks, and public safety and consumer organizations.[2] The mission of the SHLB Coalition is to promote policies that will improve the broadband capabilities for schools, libraries, health care providers and other community anchor institutions to enhance the quality and availability of the essential services they provide to the general public. High-capacity broadband is the key infrastructure that K-12 schools, community colleges, colleges, universities, libraries, hospitals, health clinics and other health care providers need to provide 21st century education, information and health services. High-capacity broadband capabilities are especially vital for these institutions to serve the needs of the most vulnerable segments of our population – including those in rural areas; unemployed and low-income consumers; and ill, disabled and elderly persons. Students, teachers, administrators, doctors, nurses, police, fire and rescue personnel, and many others need high-capacity broadband to participate fully in the 21st Century society and economy.

III. Broadband providers that receive High-Cost/Connect America Fund support should ensure that community anchor institutions have affordable, high-capacity broadband in order to enhance the nation's broadband performance, fulfill the goals of the National Broadband Plan, and improve essential health and educational services.

A. Community anchor institutions have unique needs for broadband service that are equally compelling but are very different from the needs of residential consumers.

The Internet has become a fundamental cornerstone of modern education, learning, health care delivery, economic growth, social interaction, job training, government services, and the dissemination of information and free speech. Broadband plays a critical role in allowing consumers to benefit from the essential services provided by community anchor institutions in the following ways:

- Public libraries make wired and wireless broadband connections available to the public at no charge. People use these library-provided broadband services to submit job applications, apply for e-government benefits, participate in distance education classes

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[2] See www.shlbc.org for a list of the members of the SHLB Coalition.

and complete school homework assignments.[3] On-site professional librarians provide the additional benefit of technical and information support. Similarly, libraries in schools, community colleges, colleges and universities depend on high-capacity broadband to deliver essential learning services.

- Primary and secondary schools need high-capacity broadband access to offer specialized courses and a variety of new learning tools. Advanced multimedia educational applications can help teachers address various learning styles and abilities, and tailor instructional programming to meet individual students' needs, often using high-capacity broadband connections.[4]

- Community colleges and higher education require high-capacity broadband to provide online degree programs and job training, to engage in research and collaboration, and to give rural and low-income areas remote access to experts and laboratories through distance learning.[5] Research universities are often at the center of innovation in our economy; they need high-capacity broadband to exchange and analyze data and develop new applications that will restore our global leadership in advanced technologies.

- Hospitals and health clinics need high-capacity broadband to exchange diagnostic information and medical records, and to provide remote monitoring of out-patients.[6]

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[3] See, "Technology Comes to Baltimore's Public Libraries," by Jacques Kelly, The Baltimore Sun, July 5, 2010, available at http://articles.baltimoresun.com/2010-07-05/news/bs-md-pratt-hayden-20100705_1_job-seekers-electronic-library-reading-devices. (" [S]taff members say their 160 computers are enabling unemployed people to find jobs, do homework or manage their budgets. 'From McDonald's to McDonnell Douglas, 85 percent of all hiring is done online,' said Pratt [Library] CEO Carla D. Hayden. 'In a city like Baltimore, where 30 percent of the population has no home computer access, we have found a new role.'")

[4] The New Media Consortium's 2010 Horizon Report found that schools are increasing their use of "cloud computing", which requires advanced broadband connectivity. ("While it was difficult to find examples of the use of cloud computing in schools a year ago, there are now many, many schools that have adopted cloud-based tools for productivity, scheduling, curriculum development, and collaboration, at least at the administrative level.") Pp. 9-10. http://www.nmc.org/pdf/2010-Horizon-Report-K12.pdf.

[5] For example, the University of Texas A&M has implemented a wireless broadband network for videoconferencing among its 24 rural school districts. See, "University Tries Broadband Wireless," Community News, available at http://findarticles.com/p/articles/mi_m0CMN/is_5_42/ai_n27866327/. May, 2005 ("'We were looking to establish a videoconference network that would be connected to Kingsville so that we could deliver university credit courses at all levels, undergraduate and graduate, to rural areas in south Texas,' says Tadeo Reyna, director of distance learning and continuing education for Texas A&M Kingsville.")

[6] One study voiced the seven benefits of telemedicine as follows: 1. Increases patient access to quality care, ultimately improving outcomes; 2. Streamlines patient care, often reducing mortality and complication rates; 3. Avoids costly, potentially risky transfers to other facilities; 4. Avoids unnecessary admissions, diagnostic testing; 5. Expands referral network to include providers in rural areas ; 6. Secures greater return on existing service offerings; 7. Raises investment value by leveraging infrastructure for multiple uses. See, FCC Testimony of Protima

The effectiveness of telemedicine depends upon high-quality, high-capacity broadband connections. Health professionals can obtain quality continuing medical education through the Internet as well. Rural health clinics have a great need for broadband connections to provide rural residents with immediate access to specialists in hospitals and other health care providers outside of their rural communities.

Community anchor institutions have unique needs for very high-capacity bandwidth that are different from those of residential consumers. As the examples above illustrate, community anchor institutions need very high-capacity bandwidth, from 10 Mbps to 10 Gbps, and the flexibility to provide a variety of applications. But bandwidth is only one quality to describe the type of broadband connectivity needed by anchor institutions. Providing "big pipes" to an end user does not necessarily guarantee the delivery of high-end applications. For example, an improperly configured router or a firewall can affect performance and act as a network bottleneck. Providing adequate connectivity requires a certain degree of network openness, the availability of performance data to monitor the network, and remote troubleshooting. Unlike residential users, community anchor networks often require additional network design and engineering, network monitoring, and training to obtain the level of broadband connectivity they need to run the applications identified in the type of examples above.

B. The National Broadband Plan recognized that serving the broadband needs of anchor institutions is a high national priority.

The SHLB Coalition is pleased that the National Broadband Plan ("NBP" or "Plan") specifically recommends the provision of high-capacity broadband service to anchor institutions as one of the seven key goals of the Plan:

> Goal No. 4: Every American community should have affordable access to at least 1 gigabit per second broadband service to anchor institutions such as schools, libraries, hospitals and government buildings.

While we are pleased to see this 1 Gbps goal, the bandwidth measure itself is just a guidepost – the real achievement will be to improve our educational, medical, public safety and informational goals – creating a "high-performance America," as the Plan cogently recognizes.

Advani, Practice Manager, IT Insights Program, the Advisory Board Company, September 15, 2009, "Accelerating Adoption of Telemedicine Solutions: Understanding the Barriers, Aligning the Stakeholders," available at http://www.broadband.gov/ws_healthcare.html.

The statutory language authorizing the FCC to develop the broadband plan recognized the importance of these services. It directed the FCC to adopt

> a plan for use of broadband infrastructure and services in advancing consumer welfare, civic participation, public safety, and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes.[7]

The Plan itself frequently describes the great importance of providing anchor institutions with sufficient broadband connectivity. For instance,

> Schools, libraries and health care facilities must all have the connectivity they need to achieve their purposes. This connectivity can unleash innovation that improves the way we learn, stay healthy and interact with government.[8]

The SHLB Coalition submits that there is no better way to achieve these educational, medical, public safety and e-government goals than to increase the broadband capabilities of community anchor institutions themselves. The schools, the libraries, the community centers, the public safety centers, hospitals and health clinics have the most direct effect on whether or not our students are well-educated, our population receives better and more efficient health care, and our workforce is better trained, etc. Bringing high-capacity broadband capabilities to these anchor institutions will go a long way toward creating the "high-performance America" envisioned by Congress and the National Broadband Plan.

C. **The Commission should leverage its control over the High-Cost Fund and the proposed Connect America Fund to achieve the important goals for anchor institutions described in the Plan.**

We are pleased that the Plan contains important recommendations to reform the E-rate fund and the Rural Health Care Pilot Program, and supports the creation of a Unified Community Anchor Network (UCAN).[9] We submit that the Commission can take another significant step toward attaining these goals in unserved rural areas by using the High-Cost Fund and leveraging

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[7] American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 6001(k)(2)(D), 123 Stat. 115, 516 (2009) (Recovery Act).
[8] NBP, p. 10.
[9] NBP, Recommendation 8.22, pp. 154-155.

the proposed Connect America Fund dollars to promote greater broadband service to anchor institutions.[10]

The SHLB Coalition takes no position on who should be eligible to receive funds from the High-Cost Fund or the Connect America Fund. Similarly, we do not express any view as to what geographic areas should receive support, or how the amount of funding should be determined.

Our key concern is that the anchor institutions receive the amount of affordable, high-capacity broadband that they need to serve their communities. Funds from the universal service programs are paid by the general public through their use of telecommunications services. Providers who receive support should be willing to ensure that the anchor institutions in these areas have adequate broadband capabilities so that they can improve service to the general public. If the community anchor institutions – the schools, health care providers, libraries and others – do not have sufficient affordable broadband capacity, then providers who receive High-Cost /Connect America Fund support (funded by the general public) should be obligated, for the public good, to use a portion of their funding to deploy high-capacity and affordable broadband facilities to meet the unique needs of these anchor institutions.

Therefore we ask the Commission to develop reporting requirements and enforcement measures to ensure that broadband providers who receive High-Cost and/or Connect America Fund support in unserved areas will meet the needs of anchor institutions in those areas for high-capacity broadband.

D. **Deploying high-capacity broadband facilities to community anchor institutions can help provide next-generation capacity for residential consumers as well.**

Building broadband facilities to anchor institutions can also be used to help serve residential and business customers. The high-capacity broadband networks built to serve community anchor institutions can provide "jumping off" points for distributing additional broadband services into surrounding neighborhoods, including residences and businesses. In other words, as long as the network facilities are open to interconnection, the broadband network built to the anchor institution can serve as the "hub" from which to extend service to the surrounding community.[11] The SHLB Coalition agrees with the goal of the Plan that, ultimately, all homes

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[10] Using the Connect America Fund to support broadband to anchor institutions is consistent with the thrust of the Plan's recommendations to use government assets to spur investment ("the policies and actions recommended in this Plan fall into three categories: . . . [such as] redirecting assets that government controls or influences in order to spur investment and inclusion. . .);NBP, p. 5.

[11] These connections to anchor institution "hubs" are sometimes referred to as the "second mile." See, COMMENT SOUGHT ON IMPACT OF MIDDLE AND SECOND MILE ACCESS ON BROADBAND AVAILABILITY AND DEPLOYMENT,

and businesses should have access to affordable, high-capacity broadband. Bringing high-capacity broadband to anchor institutions can help to achieve this important goal.

E. **Connecting anchor institutions directly to state and national non-profit or for-profit R&E networks, municipal broadband providers or other providers, can lower costs both for the anchor institutions and the broadband provider that receives support.**

In addition to a *local* high-capacity broadband connection, the anchor institution will also require connection with a Middle Mile or backbone connection that is sufficiently robust and is engineered to handle the needs of the anchor institutions. Ideally, anchor institutions in each region will aggregate their traffic to obtain the greatest efficiencies and lowest costs. Non-profit and for-profit research and education (R&E) networks often provide aggregated Middle Mile and backbone capacity at rates that are extremely affordable. R&E networks often specialize in serving the needs of anchor institutions and can provide network engineering and design, training, monitoring, troubleshooting and other services that are specifically designed to meet the needs of anchor institutions. In addition to R&E networks, municipal government or other not-for-profit and for-profit public entities could also provide similar broadband network support and management to anchor institutions.

Thus, broadband providers that receive High-Cost and/or Connect America Fund support should be able to connect anchor institutions to these non-profit or for-profit R&E networks or other networks in addition to the traditional commercial provider. In fact, anchor institutions themselves should be given the opportunity to express their preference in this regard. Thus, we request that the FCC make clear in this proceeding that, when broadband providers receive support to build or provide high-capacity broadband service to anchor institutions, the anchor institution must be given the opportunity to determine how its traffic should be routed, and that it should have the option to route traffic to and interconnect with a not-for-profit or for-profit R&E network, or a municipal or other broadband provider in addition to a traditional commercial provider.

IV. **Conclusion**

The SHLB Coalition respectfully requests that recipients of funding to provide broadband service in unserved areas should deploy high-capacity broadband networks to community

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NBP Public Notice # 11. DA 09-2186 (Oct. 8, 2009), available at
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-09-2186A1.pdf. ("'Second mile transport' refers generally to the transport and transmission of data communications from the first point of aggregation (such as a remote terminal, wireless tower location, or HFC node) to the point of connection with the middle mile transport.")

anchor institutions in their geographic areas, if these institutions do not already have sufficient broadband capacity available to them. The provision of support to rural, unserved areas should be equally focused on both residential customers and anchor institutions because of the essential services that anchor institutions offer to low-income, disabled, elderly and other underprivileged residents of rural America.

John Windhausen, Jr.
Coordinator
Schools, Health and Libraries Broadband (SHLB) Coalition
jwindhausen@telepoly.com
(202) 256-9616

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